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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,327	02/06/2004	Takaaki Sorin	SAN 20.947	8528

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EXAMINER	
JUNG, UNSU	
ART UNIT	**PAPER NUMBER**
1641	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/774,327	SORIN ET AL.	
	Examiner	Art Unit	
	Unsu Jung	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38 and 74-110* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-38 and 74-110* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-15, 38, and 74-81, drawn to a surface plasmon resonance sensor having a groove pitch and a groove orientation of each diffraction grating surface, in addition to an angle that each diffraction grating surface forms with a predetermined reference plane, are adjusted in such a manner that when the diffraction grating surfaces are projected onto a predetermined projection plane, the groove orientations in the projection plane are identical while the groove pitches in the projection plane are different among the diffraction grating surfaces, classified in class 422, subclass 68.1, for example.

   II. Claims 16-18 and 24-26, drawn to a method of quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip by calculating a resonance angle at which a resonance phenomenon of a evanescent wave and a surface plasmon wave occurs, based on both a measured intensity of a reflected light due to each diffraction grating surface and an inclination angle that each diffraction grating surface forms with a reference plane, classified in class 436, subclass 518, for example.

III. Claim 19 and 23, drawn to a method of quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance chip by assigning a plurality of different samples to plural flow channels, respectively, and letting each of the sample flow through the respective flow channel, while irradiating the sensor surface with light in parallel to the specific plane at a predetermined incident angle, classified in class 436, subclass 518.

IV. Claims 20-22 and 87-91, drawn to a method of quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance chip by determining a variation between a measured intensity of a reflected light due to each diffraction grating surface and a intensity of light reflected when any sample is not in contact with the sensor surface, classified in class 436, subclass 524, for example.

V. Claims 27, 29, and 35-37, drawn to an apparatus for quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip including calculating means for calculating a resonance angle at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on both an intensity, measured by a measuring means, of a reflected light due to each diffraction grating surface and an inclination angle that each diffraction grating surface forms with a reference plane, classified in class 422, subclass 50, for example.

VI. Claims 28 and 30, drawn to an apparatus for quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance

sensor chip including calculating means for calculating a resonance angle at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on both the intensity, corrected by a correcting means, of a reflected light due to each diffraction grating surface and an inclination angle that each diffraction grating surface forms with a reference plane, classified in class 435, subclass 283.1, for example.

VII. Claims 31-33, 100-102, drawn to an apparatus for quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip including determining means for determining a variation between an intensity, measured by measuring means of a reflecting light due to each diffraction grating surface and an the intensity of the light reflected when any sample is not in contact with the sensor surface, classified in class 422, subclass 82.05, for example.

VIII. Claim 34, drawn to an apparatus for quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip including determining means for determining a variation between an intensity of a light reflected by each diffraction grating surface and received by a light receiving means and the intensity of the light reflected when any sample is not flowing through each flow channel, classified in class 422, subclass 63, for example.

IX. Claims 82-84 and 92-94, drawn to a method of quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor by identifying a groove pitch at which a resonance phenomenon of a evanescent wave and a surface plasmon wave occurs, based on a measured intensity of a reflected light due to each diffraction grating surface, classified in class 436, subclass 525, for example.

X. Claims 85 and 86, drawn to a method of quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip by identifying each flow channel, a groove pitch at which a resonance phenomenon of a evanescent wave and a surface plasmon wave occurs, based on a measured intensity of a reflected light due to each diffraction grating surface, classified in class 435, subclass 4, for example.

XI. Claims 95, 97, and 105-107, drawn to an apparatus for quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip including analyzing means for identifying a groove pitch at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on an intensity, measured by a measuring means, of a reflected light due to each diffracting grating surface, and for quantitatively and/or qualitatively analyzing the sample based on the identified groove pitch, classified in class 422, subclass 82.09, for example.

XII. Claim 96, drawn to an apparatus for quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip including analyzing means for identifying a groove pitch at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on the intensity, corrected by a correcting means, of a reflected light due to each diffraction grating surface and for quantitatively and/or qualitatively analyzing a sample based on the identified groove pitch, classified in class 422, subclass 61, for example.

XIII. Claims 98 and 99, drawn to an apparatus for quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip including analyzing means for identifying, for each flow channel, a groove pitch at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on an intensity, measured by a measuring means, of a reflected light due to each diffraction grating surface, and for quantitatively and/or qualitatively analyzing each sample flowing through respective flow channel, base on the groove pitch identified for each flow channel, classified in class 422, subclass 57, for example.

XIV. Claims 103 and 104, drawn to an apparatus for quantitatively and/or qualitatively analyzing a sample using a surface plasmon resonance sensor chip including analyzing means for selecting, for each flow channel, a diffraction grating surface whose variation, determined by a

determining means, of a reflected light intensity is within a predetermined allowable range for determination and for quantitatively and/or qualitatively analyzing each sample flowing through the respective flow channel based on the variation of the reflected light intensity of the diffraction grating surface selected for each flow channel, classified in class 422, subclass 55, for example.

XV. Claim 108, drawn to a surface plasmon resonance sensor chip having a diffraction grating curved surface having a curved surface form in a convex shape whose-light irradiated side bulges out, classified in class 435, subclass 287.1, for example.

XVI. Claims 109 and 110, drawn to a surface plasmon sensor chip having a resonance area with a plurality of continuous areas discretely formed on a sensor surface disposed on a same plane or a same plane partially having a gently curved surface, classified in class 435, subclass 288.3, for example.

2. The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of

using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process. For example, the product of Group I can be used with the method of Groups III, IV, IX, and X.

4. Inventions I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process. For example, the product of Group I can be used with the method of Groups II, IV, IX, and X.

5. Inventions I and IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process. For example, the product of Group I can be used with the method of Groups II, III, IX, and X.

6. Inventions I and IX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the

process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process. For example, the product of Group I can be used with the method of Groups II-IV and X.

7. Inventions I and X are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process. For example, the product of Group I can be used with the method of Groups III-IV and IX.

8. Inventions V and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group V can be used with the surface plasmon resonance

sensor chip of Group XVI. The subcombination has separate utility such as use in apparatuses of Groups VI-VIII and XI-XIV.

9. Inventions VI and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group VI can be used with the surface plasmon resonance sensor chip of Group XVI. The subcombination has separate utility such as use in apparatuses of Groups V, VII, VIII, and XI-XIV.

10. Inventions VII and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group VII can be used with the surface plasmon resonance

sensor chip of Group XVI. The subcombination has separate utility such as use in apparatuses of Groups V, VI, VIII, and XI-XIV.

11. Inventions VIII and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group VIII can be used with the surface plasmon resonance sensor chip of Group XVI. The subcombination has separate utility such as use in apparatuses of Groups V-VII and XI-XIV.

12. Inventions XI and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group XI can be used with the surface plasmon resonance

sensor chip of Group XVI. The subcombination has separate utility such as use in apparatuses of Groups V-VIII and XII-XIV.

13. Inventions XII and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group XII can be used with the surface plasmon resonance sensor chip of Group XVI. The subcombination has separate utility such as use in apparatuses of Groups V-VIII, XI, XIII, and XIV.

14. Inventions XIII and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group XIII can be used with the surface plasmon resonance

sensor chip of Group XVI. The subcombination has separate utility such as use in apparatuses of Groups V-VIII, XI, XII, and XIV.

15. Inventions XIV and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group XIV can be used with the surface plasmon resonance sensor chip of Group XVI. The subcombination has separate utility such as use in apparatuses of Groups V-VIII and XI-XIII.

16. Inventions II-IV, IX, and X are independent and patentably distinct. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the method of Group II includes a step of calculating a resonance angle at which a resonance phenomenon of a evanescent wave and a surface plasmon wave occurs, based on both a measured intensity of a reflected light due to each diffraction grating surface and an inclination angle that each diffraction grating surface forms with a reference plane, which is not

required by the methods of Groups III, IV, IX, and X. The method of Group III includes a step of assigning a plurality of different samples to plural flow channels, respectively, and letting each of the sample flow through the respective flow channel, while irradiating the sensor surface with light in parallel to the specific plane at a predetermined incident angle, which is not required by the methods of Groups II, IV, IX, and X. The method of Group IV includes a step of determining a variation between a measured intensity of a reflected light due to each diffraction grating surface and a intensity of light reflected when any sample is not in contact with the sensor surface, which is not required by the methods of Groups II, III, IX, and X. The method of Group IX includes a step of identifying a groove pitch at which a resonance phenomenon of a evanescent wave and a surface plasmon wave occurs, based on a measured intensity of a reflected light due to each diffraction grating surface, which is not required by the methods of Groups II-IV and X. The method of Group X includes a step of identifying each flow channel, a groove pitch at which a resonance phenomenon of a evanescent wave and a surface plasmon wave occurs, based on a measured intensity of a reflected light due to each diffraction grating surface, which is not required by the methods of Groups II-IV and IX. Therefore, the methods of Groups II-IV, IX, and X have different modes of operation.

17. Inventions II and V-VIII, XI-XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process.

(MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process. For example, the apparatuses of Groups V-VIII and XI-XIV can be used with methods of Groups III, IV, X, and XI.

18. Inventions III and V-VIII, XI-XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process. For example, the apparatuses of Groups V-VIII and XI-XIV can be used with methods of Groups II, IV, X, and XI.

19. Inventions IV and V-VIII, XI-XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process. For example, the apparatuses of Groups V-VIII and XI-XIV can be used with methods of Groups II, III, X, and XI.

20. Inventions X and V-VIII, XI-XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as

claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process. For example, the apparatuses of Groups V-VIII and XI-XIV can be used with methods of Groups II-IV and XI.

21. Inventions XI and V-VIII, XI-XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process. For example, the apparatuses of Groups V-IX and XII-XV can be used with methods of Groups II-IV and X.

22. Inventions V-VIII and XII-XV are independent and patentably distinct. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the apparatus of Group V includes calculating means for calculating a resonance angle at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on both an intensity, measured by a measuring means, of a reflected light due to each diffraction grating surface and an inclination angle that each diffraction grating surface

forms with a reference plane, which is not required by the apparatuses of Groups VI-VIII and XI-XIV. The apparatus of Group VI includes calculating means for calculating a resonance angle at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on both the intensity, corrected by a correcting means, of a reflected light due to each diffraction grating surface and an inclination angle that each diffraction grating surface forms with a reference plane, which is not required by the apparatuses of Groups V, VII, VIII, and XI-XIV. The apparatus of Group VII includes determining means for determining a variation between an intensity, measured by measuring means of a reflecting light due to each diffraction grating surface and an the intensity of the light reflected when any sample is not in contact with the sensor surface, which is not required by the apparatuses of Groups V, VI, VIII, and XI-XIV. The apparatus of Group VIII includes determining means for determining a variation between an intensity of a light reflected by each diffraction grating surface and received by a light receiving means and the intensity of the light reflected when any sample is not flowing through each flow channel, which is not required by the apparatuses of Groups V-VII and XI-XIV. The apparatus of Group XI includes analyzing means for identifying a groove pitch at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on an intensity, measured by a measuring means, of a reflected light due to each diffracting grating surface, and for quantitatively and/or qualitatively analyzing the sample based on the identified groove pitch, which is not required by the apparatuses of Groups V-VIII and XII-XIV. The apparatus of Group XII includes analyzing means for identifying a groove pitch at

which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on the intensity, corrected by a correcting means, of a reflected light due to each diffraction grating surface and for quantitatively and/or qualitatively analyzing a sample based on the identified groove pitch, which is not required by the apparatuses of Groups V-VIII, XI, XIII, and XIV. The apparatus of Group XIII includes analyzing means for identifying, for each flow channel, a groove pitch at which a resonance phenomenon of an evanescent wave and a surface plasmon wave occurs, based on an intensity, measured by a measuring means, of a reflected light due to each diffraction grating surface, and for quantitatively and/or qualitatively analyzing each sample flowing through respective flow channel, base on the groove pitch identified for each flow channel, which is not required by the apparatuses of Groups V-VIII, XI, XII, and XIV. The apparatus of Group XIV includes analyzing means for selecting, for each flow channel, a diffraction grating surface whose variation, determined by a determining means, of a reflected light intensity is within a predetermined allowable range for determination and for quantitatively and/or qualitatively analyzing each sample flowing through the respective flow channel based on the variation of the reflected light intensity of the diffraction grating surface selected for each flow channel, which is not required by the apparatuses of Groups V-VIII and XI-XIII. Therefore, the apparatuses of Groups V-VIII and XI-XIV have different modes of operation.

23. Inventions I, XV, and XVI are independent and patentably distinct. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and

they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the product of Group I includes a groove pitch and a groove orientation of each diffraction grating surface, in addition to an angle that each diffraction grating surface forms with a predetermined reference plane, are adjusted in such a manner that when the diffraction grating surfaces are projected onto a predetermined projection plane, the groove orientations in the projection plane are identical while the groove pitches in the projection plane are different among the diffraction grating surfaces, which are not required by the products of Groups XV and XVI. The product of Group XV includes a diffraction grating curved surface having a curved surface form in a convex shape whose-light irradiated side bulges out, which is not required by the products of Groups I and XVI. The product of Group XVI includes a resonance area having a plurality of continuous areas discretely formed on a sensor surface disposed on a same plane or a same plane partially having a gently curved surface, which is not required by the products of Groups I and XV. Therefore, the products of Groups I, XV, and XVI have different modes of operation.

24. Inventions XV, XVI and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case product as

claimed can be used in a materially different process. For example, products of Groups XV and XVI can be used with methods of Groups III, IV, IX and X.

25. Inventions XV, XVI and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case product as claimed can be used in a materially different process. For example, products of Groups XV and XVI can be used with methods of Groups II, IV, IX and X.

26. Inventions XV, XVI and IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case product as claimed can be used in a materially different process. For example, products of Groups XV and XVI can be used with methods of Groups II, III, IX and X.

27. Inventions XV, XVI and IX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially

different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case product as claimed can be used in a materially different process. For example, products of Groups XV and XVI can be used with methods of Groups II-IV and X.

28. Inventions XV, XVI and X are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case product as claimed can be used in a materially different process. For example, products of Groups XV and XVI can be used with methods of Groups II-IV and X.

29. Inventions XV, XVI and V are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group V can be used with the

surface plasmon resonance sensor chip of Group I. The subcombination has separate utility such as use in apparatuses of Groups VI-VIII and XI-XIV.

30. Inventions XV, XVI and VI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group VI can be used with the surface plasmon resonance sensor chip of Group I. The subcombination has separate utility such as use in apparatuses of Groups V, VII, VIII, and XI-XIV.

31. Inventions XV, XVI and VII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group VII can be used with the

surface plasmon resonance sensor chip of Group I. The subcombination has separate utility such as use in apparatuses of Groups V, VI, VIII, and XI-XIV.

32. Inventions XV, XVI and VIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group VIII can be used with the surface plasmon resonance sensor chip of Group I. The subcombination has separate utility such as use in apparatuses of Groups V-VII and XI-XIV.

33. Inventions XV, XVI and XI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group XI can be used with the

surface plasmon resonance sensor chip of Group I. The subcombination has separate utility such as use in apparatuses of Groups V-VIII, and XII-XIV.

34. Inventions XV, XVI and XII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group XII can be used with the surface plasmon resonance sensor chip of Group I. The subcombination has separate utility such as use in apparatuses of Groups V-VIII, XI, XIII, and XIV.

35. Inventions XV, XVI and XIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group XIII can be used with the

surface plasmon resonance sensor chip of Group I. The subcombination has separate utility such as use in apparatuses of Groups V-VIII, XI, XII, and XIV.

36. Inventions XV, XVI and XIV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require the particulars of the subcombination as claimed for patentability. For example, the apparatus of Group XIV can be used with the surface plasmon resonance sensor chip of Group I. The subcombination has separate utility such as use in apparatuses of Groups V-VIII, and XI-XIII.

37. Because these inventions are distinct for the reasons given above, have acquired a separate status in the art because of their recognized divergent subject matter, and searches for one group are not required by the others, restriction for examination purposes as indicated is proper.

38. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

39. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Unsu Jung whose telephone number is 571-272-8506. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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09/18/05